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HURRICANES IRMA AND MARIA MANAGEMENT REPORT

Information contained in this report reflects HQ and regional reporting from the most recently completed operational period as well as other reports provided by HQ, regional and interagency sources.

National Incident Management Objectives

Objective 1: Ensure that health and safety of the EPA responders is considered at all times.

Objective 2: Establish an incident management structure and processes employing the Incident Command System to enable effective overall management of the event with deployment of resources (staff and equipment) in a rapid, aggressive and well-coordinated manner.

Objective 3: Ensure prompt review and processing of fuel waiver requests.

Objective 4: Prepare for and provide rapid assessment of industrial facilities as requested by the State or under EPA's statutory program responsibilities for CERCLA Superfund, RMP and FRP facilities. Working with our state partners, contact industrial sources within the impacted area to determine their operational status and determine what support can be provided with the monitoring of the start-up of industrial sources.

Objective 5: Prepare for and provide rapid assessment of & technical assistance to drinking water & wastewater facilities, as requested by the State or local government. EPA will support our state partners in contacting drinking water and wastewater systems.

Objective 6: Prepare a Sustained Response Plan that outlines the resource and equipment needs for a long duration response.

Objective 7: Activate the Agency's Crisis Communication Plan to ensure effective and efficient coordination of all incident communications.

Objective 8: Encourage a collaborative federalism approach, where national, state and local governments interact cooperatively and collectively to solve common problems.

Objective 9: Begin Agency internal and external coordination under the National Disaster Recovery Framework regarding Recovery Support Functions in which EPA is likely to be involved.

Region 2 Incident Objectives

- The health and safety of our responders is our highest priority. Develop health and safety messages daily for all field operations;
- Ensure health and safety of the public by conducting environmental assessments and operating in accordance with approved site safety plans;
- Continue coordination with OSCs deployed at the FEMA JFO in San Juan, PR;
- Continue coordination with OSCs deployed to the JFO on St. Croix;
- Coordinate with CEPD, prioritize and perform drinking water and waste water assessment targets in Puerto Rico and the USVI;
- Continue integrating Puerto Rico Department of State (PRDOS), Puerto Rico Department of Justice (PRDOJ), and Non-Governmental Organization (NGO) personnel into the non-PRASA assessment teams;
- Coordinate all field activities with CEPD program office staff and FEMA division coordinators. Support CEPD operations that are within the scope of the FEMA mission assignments;
- Support USCG sunken vessel recovery operations and coordinate operations with ESF10 partner USCG;
- Coordinate and prepare for air monitoring operations in support of the USACE air curtain incineration operations in Puerto Rico and the USVI;
- Continue coordination in support of the collection of household hazardous waste/ e-waste/ white goods in Puerto Rico and the USVI;
- Continue coordination in support of removal and disposal of medical wastes in the USVI;
- Continue drinking water sampling as coordinated and prioritized with DPNR in the USVI; and
- Continue developing and implementing a full staffing plan to increase the response effort to meet the FEMA mission assignments and then for continuous operation in Puerto Rico, USVI, and in the REOC.

Executive Summary

Region 2

- Power remains out for about 70-75% of the residents of Puerto Rico (PR) and The U.S. Virgin Islands (USVI). USVI anticipates restoration of power to 90% of clients by the end of December 2017. PR Governor Rossello has set a goal for end of December for PR as well, but the United States Army Corps of Engineers (USACE) doubts this schedule can be met. USACE considers 75% restoration by late January a more likely timeframe.
- The Puerto Rico Electric Power Authority (PREPA) reports that 44% of its facilities are without power generation capacity in PR.
- In PR, about 8.0% of the population is still not receiving drinking water through the utility system. Comparable data for the USVI is not available, but the population is reportedly being provided with adequate supplies of drinking water.
- In PR, 8% of the sewage treatment plants are still not operational. Numerous raw sewage discharges entered waterways upstream of drinking water intakes. EPA, the Centers for Disease Control (CDC), and PR Department of Health (DOH) advised residents not to bathe in surface waters.
- The United States Army Corps of Engineers (USACE) reports that vegetative debris burn operations on Saint Croix (STX) are likely to start on December 9th and on December 7th in Saint Thomas (STT). Per the Governor's direction no incineration of vegetative debris will occur on Saint John (STJ). PR's Environmental Quality Board (PR EQB) is considering a pilot program for the use of an air burner for vegetative debris disposal.
- EPA continues to coordinate with the FEMA, USACE, the Commonwealth of PR, and other partners on field operations, assessment of fixed facilities, debris management, drinking water infrastructure, and data management. EPA is coordinating with USCG for Marine Branch operations and hazardous material related to sunken vessel recovery. EPA performed data management of vessel records.

[Region 4 reports only on Tuesdays. This information is current as of November 28th]

Region 4

- To date, EPA Region 4 has recovered 130 vessels in the Marathon Key area and transported them to Florida Fish and Wildlife Commission (FWC) staging areas. EPA estimates that 27 vessels remain to be addressed within EPA's area of responsibility (AOR). Currently, EPA vessel recovery operations are

limited to private canals in Sector Key West. Operations in the remainder of the State are USCG-lead.

Active Regional Mission Assignments (MAs) and Funding

EPA Region	Mission Assignment Number	Funding Amount	Description of Assignment
Region 2	4339DR-PR-EPA-04	\$6,000,000	To deploy personnel to coordinate and execute all necessary assessments, evaluations, sampling and analysis services/support and other necessary actions associated with ensuring the safety and quality of DW and WW systems, in support of PRASA, Puerto Rico Department of Health (PRDOH).
	4335DR-VI-EPA-02	\$1,008,000	To perform assessment of oil and hazardous materials releases, contaminated debris and other environmental events in USVI.
	4335DR-VI-EPA-04	\$10,000,000	Conduct oil and hazardous materials field operations, including cleanup and disposal of hazardous materials and oil, and response to orphaned containers in order to mitigate actual and potential threats to public health and safety.
	4339DR-PR-EPA-01	\$353,000	EPA to FEMA NRCC or PR JFO/EOC EPA requested additional funding for MA 4339DR-PR-EPA-01.
	4339DR-PR-EPA-03	\$23,000,000	Removal, cleanup and disposal of oil and hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in PR
	4339DR-PR-EPA-06	\$15,000	Conduct drinking water sampling at sites throughout PR that provide potable drinking water for resident employees per the DOI's request
	4340DR-VI-EPA-05	\$8,000,000	Removal, cleanup and disposal of oil & hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in the VI
	4340DR-VI-EPA-06	\$1,800,000	Coordinate/Execute all necessary assessments, evaluations, sampling and analytical services/support to ensure the safety and quality of public drinking
	4340DR-VI-EPA-01	\$255,000	EPA to FEMA NRCC or USVI JFO/EOC
	4340DR-VI-EPA-04	\$5,300,000	EPA to RRCC, JFO, EPA REOC, State EOC and other coordination venues to support FEMA response operations in the USVI.
	4340DR-VI-EPA-05	\$8,000,000	Removal, cleanup and disposal of oil & hazmat; collect and dispose of HHW; monitor immediate threats to public health, safety, and the environment in the VI
Region 4	4337DR-FL-EPA-14-01	\$12,049,231	Provide oil and hazardous material field response
	4337DR-FL-EPA-15	\$408,814	Landfill Specialty Team
Total Active MAs		\$76,189, 045	

Total Number of Regional Personnel Involved in Response (as reported on by Region 2 on November 28th and Region 4 on November 28th)

Type	R2 Personnel	R4 Personnel	Total Regional Personnel
EPA*	165	13	178
Contractors	168	47	215
Totals	333	60	393

**These numbers include Region 2 CEPD personnel*

Force Laydown for USVI and PR (as reported by Region 2 on November 21st)

Type	USVI Personnel	PR Personnel	Total Deployed
EPA*	22	69	91
Contractors	73	74	137
Totals	95	143	238

**These numbers include Region 2 CEPD personnel*

Region 2 Significant Activities

- On November 28th, EPA participated in a meeting on thermal reduction for vegetative debris in PR to answer questions from the PR National Guard, responsible for Camp Santiago, a site under consideration for reducing the volume of debris.
- On December 1st, EPA will participate in a meeting with FEMA, the Virgin Islands Territorial Emergency Management Agency (VITEMA), and the Principal of Julius Sprauve School on STJ. More than 50% of the school is closed due to mold and the principal wants to determine the process for of getting cleanup costs reimbursed.
- EPA continues to coordinate with Puerto Rico Department of Health (PRDOH), PR EQB, and the Puerto Rico Aqueduct and Sewer Authority (PRASA) regarding analytical laboratory services. A FEMA MA is in place to assist with funding the PR EQB and PRDOH labs with needed repairs, supplies, equipment, and personnel to come back into service. An On-Scene Coordinator (OSC) is assigned to this project and coordinating directly with the laboratories.
 - EPA authorized the purchase of a permanent generator for the EQB laboratory on November 22nd and ERRS awarded a bid the same day. ERRS is awaiting the completed paperwork for purchase. EPA authorized the acquisition of a General Contractor on November 21st for the construction of the generator pad and the construction of a safety door for the Mercury Lab.
- EPA provided the FEMA lead Recovery Support Function Leadership Group with suggestions for recovery. EPA suggested support for communities' efforts to plan and rebuild communities, infrastructure and homes to mitigate future vulnerabilities, protect natural resources, support economic growth, promote the timely completion of recovery projects, and protect human health and the environment. This would include supporting:
 - Building communities' capacity to create and implement their visions for recovery and rebuilding.
 - Plan for, and rebuild communities, infrastructure, and homes to mitigate future vulnerability and promote long term sustainability.
 - Rebuild communities with critical infrastructure interdependencies in mind.
 - Revitalizing local economies while attaining better environmental and human health outcomes.
 - Providing scientific and technical support.
 - Coordinating oversight, federal investments, and permitting per the Agency's UFR commitments.

- Facilitating community involvement in decision-making processes

Regulated Facilities in PR and USVI

The Regulated Facility Assessment Coordinator continues to coordinate damage assessment and field assessment referral information with other Region 2 inspection programs working in underground storage tanks, Federal Facilities, the Resource Conservation and Recovery Act, the Clean Air Act, and the National Pollutant Discharge Elimination System.

Facility Type	Total Field Assessments Completed (as of November 27 th)	Total # of Facilities to be Assessed
Puerto Rico		
RMP	81	56
FRP	29	23
SPCC (non-FRP)	143	0
USVI		
RMP	1	1
FRP	7	6
SPCC (non-FRP)	79	0

Total Region 2 Drinking Water/Wastewater (DW/WW) Assessments

Drinking Water and Wastewater Assessments (as of November 27th)		
Assessment Types	Total Assessments on PR	Total Assessments on USVI
On-Site DW Assessments	284	1367
On-Site WW Assessments	233	33

Drinking Water/Wastewater (DW/WW) Assessments in PR

EPA staff are participating in ongoing PRASA water treatment plants (WTPs) and wastewater treatment plant (WWTPs) assessments:

- 14 of the 115 WTPs operated by PRASA are out of service.
- 101 WTPs are working on alternate power or primary power.
- 9.4% of the population is without drinking water services due to the lack of primary power, lack of diesel, operational problems, or clogged intakes.
- Non-PRASA drinking water facilities serve approximately 4% of the PR populations (PRASA systems service the other 96%). EPA worked with PR Department of Health, the Department of Defense (DOD), Health and Human Services (HHS), and FEMA to assess the 237 non-PRASA drinking water systems throughout PR.
 - 188 of the 237 non-PRASA systems are operational.
 - An estimated 6 systems will need federal assistance to return to an operating condition.
- 4 of the 51 WWTPs operated by PRASA are out of service.
- 22 WWTPs are working on primary power

- Out of PRASA's 51 facilities, 4 WWTPs are non-operational and upstream of a drinking water intake.
 - Utuado (2.0 MGD) - Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on site.
 - Ciales (1.5 MGD) – Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on-site.
 - Yabucoa (1.5 MGD) - Alternate power unit out of service.
 - Camuy-Hatillo (3.0 MGD) – Alternate power unit out of service.
- PRASA operates at least 714 sanitary pump stations. As of November 29th, at least 75 sanitary pump stations are overflowing sewage due to lack of power, malfunctioning power generators, or pumping problems. 30 of these are located upstream of a water supply intake.

Drinking Water/Wastewater Assessments in USVI

- DPNR has suspended the compliance monitoring required for public water systems under the Territorial Safe Drinking Water Regulations during this hurricane aftermath emergency period. Currently, DPNR anticipates this suspension to last through December 2017. During the emergency period EPA and DPNR are sampling public water systems and some other facilities (limited number) by special request.
 - DPNR has requested weekly sampling of all bottled water, ice manufacturing, standpipe and rainmaker water systems.
 - DPNR made a special request for weekly sampling of all schools no matter the source of water as they are re-opening. EPA has been performing this task but has made the request to stop sampling schools utilizing the WAPA public water system. DPNR has agreed.
- In USVI, EPA has assessed 191 non-utility drinking water systems, 182 of which are operational.
- All 8 WWTPs are in service.
- USVI owns and operates 30 lift stations, with 2 being out of service.

PR and USVI Debris Recovery

- While U.S. Army Corps of Engineers (USACE) completes the permit process for several locations for debris collection staging areas in PR, EPA is coordinating with PREQB, the Puerto Rico Industrial Development Company (PRIDCO), and individual municipalities to establish temporary hazardous materials collection areas. EPA, along with USACE and PREQB, is visiting the proposed staging areas, as well as established municipal collection areas.
- There are 19 approved staging/disposal areas for HHW in PR and 7 approved staging areas for HHW in USVI. EPA continues to add Hazardous Debris Assessment Teams to each of the three field branches as needed to coordinate with USACE.
- In USVI, EPA and its contractors continue medical waste management efforts. As of November 26th, there are 244 bags of normal medical waste and 327 sharps containers pre-staged for future removal (rad screened and segregated) on STX. On STT and STJ, a full container of medical waste (a 20' trailer) will be picked up on November 29th for off-island shipment.
- On STT and STJ, HHW efforts continue.
 - Electronics waste (e-Waste) removal continues at the University of Virgin Islands.
 - Waste bulking continues at Bovoni Landfill HHW processing pad, and packing continues at St. Thomas Industrial Park e-Waste processing pad.

Orphan Container, Pollution Response, and Vessels in PR and USVI

- As of November 29th, EPA Region 2 had removed a total of 10,256 containers in PR and 7,266 in USVI.

Vessel Assessments (as of November 29 th)		
Location	Vessels Assessed	Vessels Closed
Puerto Rico	350	136
U.S. Virgin Islands	460	109

Region 4 Significant Activities

Orphan Container, Pollution Response, and Vessels in Florida

- To date, EPA has collected 722 orphan containers, including drums, oil containers, and propane tanks. These items are being stored for waste stream categorization at the container staging area at the Florida Keys Marathon International Airport (MTH) and await repackaging prior to recycling or disposal at an offsite location.

Total Containers Collected (as of November 14 th)	
Container Type	Total Collected
Tanks > 100 gallons	49
55-gallon drums	208
Propane tanks	231
Refrigerant tanks	22
Oil and gas containers	103
Haz-labeled containers	23
Paint and coatings containers	17
Uncategorized containers	69
Total	722

Combined EPA and USCG Vessel Operations Tracking (as of November 28 th)			
USCG Sector	Vessels Identified ²	Vessels Completed ³	Vessels Remaining
Jacksonville	196	104	91
Key West ⁴	1794	1434	360
Miami	300	162	138
St. Petersburg	302	270	32
Total	2566	1970	682

1. As reported by USCG Sector Key West

2. Table lists confirmed targets. Unified Command has identified over 3,000 potential targets for assessment

3. Removed by UC or 3rd party, transferred to FWC, or determined no further action necessary

4. Includes EPA and USCG vessel operations

EPA Headquarters Significant Activities

- Recently approved fact sheets on HHW managment can be found at:
 - STX: <https://response.epa.gov/sites/12403/files/St%20Croix%20HHW%20Collection%20FLYER%2011%2014%2017.pdf>
 - STJ: https://response.epa.gov/sites/12403/files/St%20John_HHW_Collection%20Flyer_11-11-17.pdf
 - STT: https://response.epa.gov/sites/12403/files/St%20Thomas_HHW_Collection%20Flyer_11-11-17.pdf
- EPA finalized the story map on the Hurricane Maria Response:
<https://epa.maps.arcgis.com/apps/MapJournal/index.html?appid=051533ab716c4f5e821dc361cbb1876f>.

- The Headquarters Emergency Operation Center (HQ EOC) is operating under a partial activation in support of regional response efforts to Hurricanes Irma and Maria. The HQ EOC is physically staffed with 4 EPA personnel and 1 contractor and is coordinating on several levels with EPA Regions 2 and 4, as well as other federal agencies.
- EPA Senior Management on the Policy Coordination Committee (PCC) are holding weekly calls to discuss issues, highlights, and adherence to the management objectives.

Community Involvement Activities

- In USVI, Community Involvement Coordinators (CICs):
 - identified faith-based organization outreach opportunity for drinking water and HHW collection information and prepared outreach packets for the organization;
 - coordinated with FEMA official, Troy York, who is on the radio every morning to talk about hurricane relief efforts. CICs made plans to appear on his radio hour to talk about special Coral Bay collection day on Thursday, November 30th;
 - reached out to All Hands Volunteer group to talk about HHW separation during the cleaning of homes on STT and STJ;
 - determined the procedure for the EPA Hotline notification system; and
 - distributed flyers at the Small Business Administration (SBA) Disaster Loan Center and the newly re-opened Community Recycling Center in Manadahl Bay.
- In PR, CICs:
 - traveled with the orphan container strike team to meet with residents and perform outreach activities in Aguado, Rincon, and Aquadilla and
 - met with representatives of Ciales, and Barceloneta and provided outreach flyers.

Other EPA Activities

- EPA continues public outreach through print, broadcast and social media to promote HHW operations. Recent major articles appeared in El Nuevo Dia and the US VI Daily News. Feature news items are also being produced by Telemundo news in PR. These efforts augment our on-the-ground outreach by CICs.
- EPA asked FEMA to wait until burn planning is complete prior to issuing news releases regarding vegetative debris burn operations.
- EPA is evaluating a variety of force majeure claims from a number of entities in PR and USVI on a case-by-case basis and preparing responses as appropriate.
- Region 2, Region 4, and HQ activities related to Irma and Maria response efforts are available at: www.epa.gov/hurricane-irma and www.epa.gov/hurricane-maria, respectively.
- On October 6th, EPA HQ issued NAA to PREPA to provide relief from certain Clean Air Act requirements, including emission limits, hours of operation limits, fuel usage restrictions, and restrictions on the shutdown or bypass of pollution control equipment for most of their electric generating units operating in PR. EPA reissued the NAA on November 17th; the new expiration date is January 1st.